Claim Amendments

Please revise the claims as follows:

--1.-2. (cancelled)

3. (previously presented) A method according to claim 17, wherein the NADH or NADPH are produced by the reduction of NAD^+ or $NADP^+$ by said dehydrogenase enzyme which concomitantly oxidises a substrate.

4. (previously presented) A method according to claim 3, wherein the amount of NADH or NADPH formed is proportional to the amount of the redox enzyme present or the amount of its substrate and hence allows the detection, or quantification, of the enzyme or substrate in the sample.

5. (cancelled)

6. (previously presented) A method according to claim 17 wherein the reductase is capable of accepting two electrons from NADH or NADPH.

7. (previously presented) A method according to claim 17 wherein the reductase is selected from putidaredoxin reductase of the cytochrome $P450_{cam}$ enzyme system from *Pseudonomas putida*, the flavin (FAD/FMN) domain of the $P450_{BM-3}$ enzyme from *Bacillus megaterium*, spinach ferrodoxin reductase, rubredoxin reductase, adrenodoxin reductase, nitrate reductase, cytochrome b_5 reductase, corn nitrate reductase, terpredoxin reductase and yeast, rat, rabbit and human NADPH cytochrome P450 reductase or a functional derivative of any thereof.

8. (previously presented) A method according to claim 17 wherein the redox active agent is $Fe(CN)_6^{3-}$, $RU(NH_3)_6^{3+}$, or ferrocenium monocarboxylic acid (FMCA).

9. (previously presented) A method according to claim 17 wherein the reductase is specific for NADH.

10. (original) A method according to claim 9 wherein the reductase is a putidaredoxin reductase.

11. (previously presented) A method according to claim 17 wherein the reductase is specific for NADPH.

12. (original) A method according to claim 11 wherein the reductase is the flavin domain of $P450_{BM-3}$ or is spinach ferrodoxin reductase.

13. (previously presented) A method according to claim 17 which allows a monitoring of the amount of the substrate, enzyme, NADH or NADPH over time.

14. (previously presented) A method according to claim 17 wherein the redox active agent is not diaphorase or an organic dye.

15. (currently amended) An electrochemical cell comprising:

(a) sample holding means;

(b) a buffered solution comprising a dehydrogenase enzyme for converting an analyte substrate to its product(s), NAD^+ or $NADP^+$, a NADH or NADPH reductase and a redox active agent, wherein the dehydrogenase enzyme, NAD^+ or $NADP^+$, NADH or NADPH reductase and redox active agent are dissolved or dispersed in the buffered solution; and

(c) means for detecting and/or quantifying any current generated.

16. (currently amended) An electrochemical cell which can be used to carry out a method for monitoring the activity of a redox enzyme in a sample, which enzyme is a dehydrogenase enzyme which uses NAD^+ or $NADP^+$ as a co-factor, or for measuring the amount of a substrate for said enzyme in a sample, which method comprises detecting the presence or absence of, or determining the concentration of, NADH or NADPH by:

(a) providing a buffered solution comprising said sample and (i) said dehydrogenase enzyme, (ii) NAD^+ or $NADP^+$, (iii) a NADH or NADPH reductase and (iv) a redox active agent, wherein the dehydrogenase enzyme, NAD^+ or $NADP^+$, NADH or NADPH reductase and redox active agent are dissolved or dispersed in the buffered solution; and

(b) measuring the quantity of reduced redox active agent produced by the reductase, by electrochemical means;

wherein electron transfer between the redox active agent and an electrode is correlated to the activity of the redox enzyme or the amount of the substrate,

wherein the electrochemical cell comprises:

(a) sample holding means;

(b) a buffered solution comprising a dehydrogenase enzyme for converting an analyte substrate to its product(s), NAD^+ or $NADP^+$, a NADH or NADPH reductase and a redox active agent, wherein the dehydrogenase enzyme, NAD^+ or $NADP^+$, NADH or NADPH reductase and redox active agent are dissolved or dispersed in the buffered solution; and

(c) means for detecting and/or quantifying any current generated.

17. (currently amended) A method for monitoring the activity of a redox enzyme in a sample, which enzyme is a dehydrogenase enzyme which uses NAD^+ or $NADP^+$ as a co-factor, or for measuring the amount of a substrate for said enzyme in a sample, which method comprises detecting the presence or absence of, or determining the concentration of, NADH or NADPH by:

(a) providing a buffered solution comprising said sample and (i) said dehydrogenase enzyme, (ii) NAD^+ or $NADP^+$, (iii) a NADH or NADPH reductase and (iv) a redox active agent, wherein the dehydrogenase enzyme, NAD^+ or $NADP^+$, NADH or NADPH reductase and redox active agent are dissolved or dispersed in the buffered solution; and

(b) measuring the quantity of reduced redox active agent produced by the reductase, by electrochemical means;

wherein electron transfer between the redox active agent and an electrode is correlated to the activity of the redox enzyme or the amount of the substrate.

18. (currently amended) An electrochemical cell comprising:

(a) sample holding means;

(b) a mixture of enzymes and redox agent obtainable by drying a buffered solution comprising, dissolved or dispersed

therein, a dehydrogenase enzyme for converting an analyte substrate to its product(s), NAD^+ or $NADP^+$, a NADH or NADPH reductase and a redox active agent; and

(c) means for detecting and/or quantifying any current generated.

19. (currently amended) An electrochemical cell which can be used to carry out a method for monitoring the activity of a redox enzyme in a sample, which enzyme is a dehydrogenase enzyme which uses NAD^+ or $NADP^+$ as a co-factor, or for measuring the amount of a substrate for said enzyme in a sample, which method comprises detecting the presence or absence of, or determining the concentration of, NADH or NADPH by:

(a) providing a buffered solution comprising said sample and (i) said dehydrogenase enzyme, (ii) NAD^+ or $NADP^+$, (iii) a NADH or NADPH reductase and (iv) a redox active agent, wherein the dehydrogenase enzyme, NAD^+ or $NADP^+$, NADH or NADPH reductase and redox active agent are dissolved or dispersed in the buffered solution; and

(b) measuring the quantity of reduced redox active agent produced by the reductase, by electrochemical means;

wherein electron transfer between the redox active agent and an electrode is correlated to the activity of the redox enzyme or the amount of the substrate, wherein the electrochemical cell comprises:

(a) sample holding means;

(b) a mixture of enzymes and redox agent obtainable by drying a buffered solution comprising, dissolved or dispersed therein, a dehydrogenase enzyme for converting an analyte substrate to its product(s), NAD^+ or $NADP^+$, a NADH or NADPH reductase and a redox active agent; and

(c) means for detecting and/or quantifying any current generated.